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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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William Glynn

100157-149US2

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BOSTON, MA 02109

EXAMINER

PHAN, RAYMOND NGAN

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: continuation filed on April 9, 2004.
2. This application has been examined. Claims 1-8 are pending.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Information Disclosure Statement

4. The information disclosure statement filed on April 9, 2004 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Submission of PTO-892 are missing from IDS.

Resubmission of PTO-892 copies is requested.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 7 respectively in Patent No. 6,775,720. Although the conflicting claims are not identical, they are not patentably distinct from each other because the omission of,

wherein the marginally balancing of the drive elements comprises:
monitoring a first set of disk numbers with counts equal to the minimum for the entire system,
monitoring the second set of disk numbers with assignment counts equal to a minimum across the first disk adaptor port to be assigned, and
selecting, if possible, a disk member from an intersection of the first and second set,

in claims 1, 5 of the present application are obvious expedients since elements of claims 1, 5 of the present application still perform the same functions,

a method for automatically configuring a mass storage system for measuring system performance, the system comprising a plurality of disk storage elements, each element having at least one hyper and connected to a disk storage controller, the disk storage controller being connected to at least one host computer, the host computer defining a plurality of logical units (LUN's), the storage controller defining in its configuration a front-end hierarchy and a back-end hierarchy, the method comprising

balancing assignments of LUN's across the back-end hierarchy, and marginally balancing assignments of disk drive elements and hypers of the disk drive elements across the back-end hierarchy, as claims 1, 7 of the patent. In re Karlson, 136 USPQ 189 (ccPA 1963).

7. Claims 3, 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 11 respectively in Patent No. 6,775,720. Although the conflicting claims are not identical, they are not patentably distinct from each other because the omission of,

wherein the marginally balancing of the drive elements comprises:
monitoring a first set of disk numbers with counts equal to the minimum for the entire system,
monitoring the second set of disk numbers with assignment counts equal to a minimum across the first disk adaptor port to be assigned, and
selecting, if possible, a disk member from an intersection of the first and second set,,

in claims 3, 7 of the present application are obvious expedients since elements of claims 3, 7 of the present application still perform the same functions,

a method for automatically configuring a mass storage system for measuring system performance, the system comprising a plurality of disk storage elements, each element having at least one hyper and connected to a disk storage controller, the disk storage controller being connected to at least one host computer, the host computer defining a plurality of logical units (LUN's), the storage controller defining in its configuration a front-end hierarchy and a back-end hierarchy, the method comprising

balancing assignments of components of the back-end hierarchy to LUN's of the front-end hierarchy, and marginally balancing said assignment, as claims 4 and 11 of the patent. In re Karlson, 136 USPQ 189 (ccPA 1963).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over D'Errico (US No. 6,216,202) in view of D'Errico et al. (US No. 6,434,637).

In regard to claims 1, 3, 5, 7, D'Errico disclose a method for automatically configuring a mass storage system for measuring system performance, the system comprising a plurality of disk storage elements, each element having at least one hyper and connected to a disk storage controller, the disk storage controller being connected to at least one host computer (see col. 6, line 54 through col. 7, line 41), the host computer defining a plurality of logical units numbers (LUNs), the storage controller defining in its configuration a front-end hierarchy and a back-end hierarchy (see col. 7, line 60 through col. 8, line 13). But D'Errico does not specifically disclose the step of balancing assignments of LUNs across the back end hierarchy and marginally balancing assignments of disk drive elements and hypers of disk drive elements across the back-end hierarchy. However D'Errico et al. disclose the step of balancing assignments (i.e. path assignment) of LUNs across the back end hierarchy and marginally balancing assignments of disk drive

elements and logical disk drive elements across the back-end hierarchy (see col. 9, lines 17-52). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of D'Errico et al. within the system of D'Errico because it would enhance the storage system performance.

In regard to claim 2, 4, 6, 8, D'Errico et al. disclose wherein the balancing assignments across back-end hierarchy maintains the assignment at any level of the back-end hierarchy within one assignment value (see col. 12, line 66 through col. 13, line 5).

Conclusion

10. Claims 1-8 are rejected. Claims 2-4, 7-9, 12-14, 17-19 are objected.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632 or via e-mail addressed to mark.rinehart@uspto.gov. The fax phone number for this Group is (571) 273-8300.

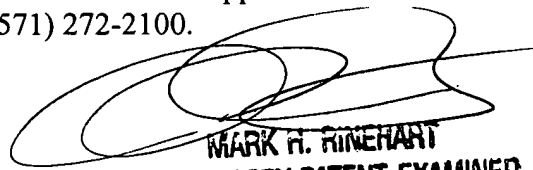
Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 .C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89U.S.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see [hop://pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 central telephone number is (571) 272-2100.

Raymond Phan
June 30, 2006



MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100